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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Charles W.C. Lin  
Title: BUMPLESS FLIP CHIP ASSEMBLY WITH SOLDER VIA  
Serial No.: 09/852,824 Filed: May 10, 2001  
Examiner: Graybill, D. Group Art Unit: 2827  
Atty. Docket No.: P002-2

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ASSISTANT COMMISSIONER FOR PATENTS  
Washington, D.C. 20231

**RESPONSE**

Dear Sir:

In response to the Office Action dated January 14, 2003, Applicant provisionally elects claims 15-30, 35-38, 40, 45-61 and 66-119 with traverse and requests reconsideration of the restriction requirement.

The Examiner has set forth the following restriction requirement:

<u>Species</u>	<u>Description</u>
1A	Depositing the solder on the metallization using electroplating.
1B	Depositing the solder on the metallization using electroless plating.
1C	Depositing the solder on the metallization using wave soldering.
1D	Depositing the solder on the metallization using meniscus coating.
1E	Depositing the solder on the metallization using solder paste printing.
2A	Attaching the substrate using an adhesive.
2B	Attaching the substrate using a mechanical clamp.

- 3A Applying heat to reflow the solder using a convection oven.
- 3B Applying heat to reflow the solder using a laser.
- 3C Applying heat to reflow the solder using an infrared continuous belt reflow oven.
- 3D Applying heat to reflow the solder using nitrogen gas.
- 3E Applying heat to reflow the solder using a vapor reflow system.
- 4A Substantially all of the solder joint is within the via hole.
- 4B The solder joint fills a bottom portion of the via hole without filling a top portion.

The Examiner requires Applicant to elect (1) Species 1A, 1B, 1C, 1D or 1E, (2) Species 2A or 2B, (3) Species 3A, 3B, 3C, 3D or 3E, and (4) Species 4A or 4B, and provide a listing of all claims readable thereon.

Applicant provisionally elects Species 1A, 2A, 3A and 4B.

For Species 1A, claims 15-30, 35-61 and 66-119 are readable thereon.

For Species 2A, claims 15-38 and 40-119 are readable thereon.

For Species 3A, claims 15-40 and 45-119 are readable thereon.

For Species 4B, claims 15-119 are readable thereon.<sup>1</sup>

Therefore, for Species 1A, 2A, 3A and 4B, claims 15-30, 35-38, 40, 45-61 and 66-119 are readable thereon. Accordingly, Applicant provisionally elects claims 15-30, 35-38, 40, 45-61 and 66-119.

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<sup>1</sup> Species 4A and 4B are not mutually exclusive. That is, substantially all of the solder joint can be within the via hole and the solder joint can fill a bottom portion of the via hole without filling a top portion of the via hole. In fact, that is precisely how solder joint 112 is shown within via hole 104 in Figure 1E. As a result, the claims that read on Species 4A also read on Species 4B and vice-versa.

In the event the Examiner disagrees and considers this non-responsive, in the interests of expediting the case, Applicant notes that claims 23 and 45 (and arguably claims 52, 57 and 67) are directed to Species 4A.

Applicant wishes to address the restriction requirement on the merits.

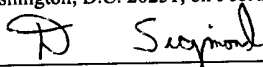
There must be a serious burden on the examiner if the restriction is required (M.P.E.P. § 803). Where the related inventions as claimed are shown to be distinct, the Examiner, in order to establish reasons for insisting upon restriction, must show by appropriate explanation one of the following: (A) separate classification thereof; (B) a separate status in the art when they are classifiable together; or (C) a different field of search (M.P.E.P. § 808.02).

The Examiner has not even attempted to explain why the various Species would involve separate classification, separate status in the art, or a different field of search (M.P.E.P. § 808.02). Applicant believes this ignores the mandatory elements set forth in the M.P.E.P. and therefore is improper.

Therefore, Applicant requests that the restriction requirement be withdrawn.

The Examiner correctly notes that claim 1 is generic to all the Species. Thus, if claim 1 is allowed then the restriction requirement will be rendered moot. Applicant believes many other claims are also generic to all the Species.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on February 14, 2003.

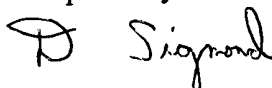


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2/14/03

Date of Signature

Respectfully submitted,



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